

Kepshinskaya

Summary by Liubin (1989). The report quotes Liubin (1968, 1974) and Liubin, Burchak-Abramovich, and Klapchuk (1971). Some further information (and illustrations) in Chistyakov (1996). A 'through' gallery cave in the canyon of the river Mzymta, in the foothills of the Akhtsu limestone massif, 30 km south of the town of Adler in the Sochi region of the Krasnodar district. At an absolute height of 250 metres, relative height 70-80 metres, in the present day zone of Kolkhid deciduous woods. As Chistyakov says, the site really consists of two parts, the cave itself, and a (roofless) rock shelter to the north-east of it. The cave is oriented in a SW-NE direction. The land slopes down steeply to the river on the south-east. The main, north-east, entrance to the cave has the form of an arch, 6.5-7 metres wide and 2.5 metres high. The length of the gallery is 17 metres. Discovered by V.P. Liubin, who carried out a small excavation in 1966-1967. The excavated area is 1.5x2.75 metres, with a depth of 3.55 metres. See the attached plan and section (Figure 1), where the direction north (and the "open" rock shelter) is in the bottom right hand corner.

Stratigraphy

- (1) dark grey loam, with rubble and gravel. 20-60 cm.
- (2) grey lumpy loam, with rubble and gravel. 5-40 cm.
- (3) greenish-grey loam, heavy, compact, viscous, with large blocks of limestone in the mid and lower parts. 1.0-1.2 metres.
- (4) alluvial sands and sandy loams. >2 metres.

Layer 1 is recent, with fragments of pottery. 2 and 4 are sterile. 3 is Mousterian. The metre-thick Mousterian layer was dug in 7 artificial horizons.

The samples taken in 2004 were from layers numbered as in Liubin's stratigraphic diagram.

Fauna

Determined by N.M. Yermolova, I.M. Gromov, N.I. Burchak-Abramovich.

Layer 1. *Ursus arctus*, *Capreolus capreolus*, *Sus scrofa*, *Canis* sp.

Layer 3. Mammals. *Capra caucasica*, *Ursus spelaeus*. Rodents. *Microtus roberti* Thom.-gud. Satun., *Prometheomys schaposchnikovi* Satun., *Cricetus* sp., *Mesocricetus* sp. Birds. *Tetraogallus caucasicus* Pall., *Lyrurus mlokosiewiczzi* Tacz., *Pyrrhocorax graculus* L.

The pellets of raptor birds on the present day surface were examined. The bones of rodents found are exclusively those which inhabit wooded, wooded steppe, and meadow steppe areas. *Glis glis* L., *Apodemus agrarius*, *Pitymys majori* Thom., *Talpa minuta* Bl., *Sorex*.

Palynology

Determinations by M.N. Klapchuk. 20 samples. 1-3 Layer 1. 4-6 Layer 2. 7-14 Layer 3. 15-20 Layer 4.

Layer 4. Sample 20, at the base. The end of a warm period, indicated by predominant AP (79%), the basic components of which are conifers (89%) with some deciduous, including oak, hornbeam, and hazel.

Layer 3. Lower part, samples 14 and 13. Exclusively coniferous species.

Layer 3. Mid part, samples 12-8. The appearance of deciduous species.

Layer 3. Upper part, sample 7. Deciduous species 14%, including elm, hornbeam, lime. A progressive warming is indicated. The top of the Mousterian layer however was evidently truncated by erosion, and traces of the warm interstadial (?) come to an end.

Layers 2 and 1. Samples 6-1 reflect the end of the last glaciation and the Holocene. Sample 6, 93% of the AP is coniferous, so a cold climate is indicated. Sample 5, deciduous species constitute 26% (of the AP?). Samples 4-1, this rises to 57-79%.

Klapchuk's pollen diagram is reproduced here at Figure 2 (Fig. 86 in Chistyakov, 1996). For comparison, Klapchuk studied also present day pollen samples from the area, shown here in Figure 3 (Fig. 85 in Chistyakov 1996).

Archaeology

In layer 3 (essentially at the base) 30 stone artefacts were found, including a Mousterian and 2 Levallois points, flakes, a retoucher on a shale pebble, and a sandstone slab with traces of working.

Chronology and palaeogeography

Liubin comments that the Mousterian layer seems to belong to the last phase of the first cold maximum of the last glaciation. Pollen spectra indicate the predominance of coniferous trees at the beginning of this phase, with some open spaces; the fauna includes a majority of birds and animals which presently are characteristic of the Alpine and sub-Alpine wooded zones. Thus, the nearest place where *Capra caucasica*, *Prometheomys*, *Tetraogallus*, *Pyrrhocorax*, and *Lyrurus* currently live is the Great Caucasus ridge and its high spurs. *Tetraogallus* and *Pyrrhocorax* live only in the high peaks (1800-3000 m), *Prometheomys* lives in the sub-Alpine meadows of the upper part of the wooded zone at a height not less than 1500 m, *Capra caucasica* and *Lyrurus* descend in winter to the upper limits of the woods at a height of around 700-1000 m. Therefore he concludes that the lowering of the boundaries of the vegetation zones in the Sochi area of the Black Sea coast at the beginning of the deposition of layer 3 may have been about 1200-1500 metres.

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Explanations for Figures 2 and 3 (Kepshinskaya)

Figure 2. (Chistyakov 86) Kepshinskaya cave deposits pollen sequence.

Second column on left: general composition.

Third column on left: deciduous (L) vs coniferous (R).

Figure 3. (Chistyakov 85) Pollen frequencies for present soil samples.

On the left: Diagrammatic representation of vegetation zones and heights. From below, lower mountain – mid mountain – higher mountain – sub-Alpine meadows (with elevations).

Third from the left: coniferous (L) vs deciduous (R) (with heights).

Kepshinskaya cave (after Liubin). Plan and section. The shaded area on the plan indicates the excavated area.